American River Basin: Downtown Combined Sewer Upsizing Project

Attachment 4: Budget

Proposal Cost Estimate

This Proposition 1E Implementation Grant Proposal is for the City of Sacramento's Downtown Combined Sewer Upsizing Project. The total cost of the proposal is $13,109,359. Of this amount, $6,899,208 (~53%) is provided as non-state funding match and $6,210,151 (~47%) is being requested from the State through the Proposition 1E Stormwater Grant Program.

Summary

The Downtown Combined Sewer Upsizing Project is a portion of the City of Sacramento's Combined Sewer System Improvement Program (CSSIP). The City has completed similar improvements downstream, and in conjunction with them, the Downtown Combined Sewer Upsizing Project will reduce combined sewer overflows (CSOs) to the Sacramento River and reduce flooding of combined stormwater runoff and sewage (termed "CSS outflows") in the downtown area of Sacramento. Thus, the Project will meet multiple planning objectives: improve water quality in the Sacramento River (the source of drinking water for millions of Californians), reduce flood damage in the economically vital downtown area of Sacramento, and protect public health by reducing the likelihood and volume of diluted sewage on streets and properties.

The Downtown Combined Sewer Upsizing Project was first conceived by City hydrologists in the 1990's to address the ongoing flooding problems in the Downtown area. Previously completed portions of the Downtown Combined Sewer Upsizing Project include the U and S Street Parallel Sewer (completed in 2007) and replacement of existing combined sewer trunk mains with larger pipelines (upsizing) and constructing parallel pipelines in S Street, 5th Street and in the alley between J and K Streets (completed in 2010). These projects served to both increase conveyance to the Sump 1/1A complex, which had been improved in 1997, and reduced the hydraulic grade line in the vicinity of the improvements, including a vulnerable flooding location at 5th and U Streets. It also provided hydraulic improvements to reduce odors and improve pumping efficiency at Sump 1 and Sump 2.

To complete the Downtown Sewer Upsizing Project, it is necessary to continue the "upsizing" in 7th Street to connect with a section upstream that was constructed out of sequence due to timing constraints, and to extend this network of upsized pipes in L, G, F, and 8th Street. For the Downtown Combined Sewer Upsizing Project to function properly, it is necessary that it be continuous, without bottleneck sections like those that currently exist. Once completed, the network of upsized and parallel pipes will serve to lower the hydraulic grade line in this portion of the City with critical and high value real estate that has experienced flooding of combined sewer outflows in the past. The Downtown Combined Sewer Upsizing Project will replace existing pipelines with larger pipes, by paralleling the existing pipeline or by connecting new pipes to upsized portions, whichever approach is determined to be most practical. Replacing the pipelines has the added benefit of renewing pipes that have long since exceeded their useful lives. For example, the pipes in 7th Street and S Street are mostly constructed of clay bricks and were constructed in the 1890's. As such, they are not reliable and have been known to fail suddenly.

In addition to the benefits provided to the downtown Sacramento area due to reduced combined sewer overflows, the project will also benefit water suppliers utilizing Freeport Regional Water Authority's (FRWA) intake structure. As the FRWA intake facility is located three miles downstream of downtown Sacramento on the Sacramento River; any combined sewer overflows occurring in the City and entering the river has direct significant negative impacts on the river's water quality and therefore affects water entering the FRWA intake structure.

A summary of the budget for the Downtown Combined Sewer Upsizing Project is presented in Table 1. The budget is based on the latest project documentation and estimates for professional services. The total cost for this project is $13,109,359. The funding match for this project is $6,899,208 or 53%. This budget has been prepared to reflect the specific work items shown in Attachments 3 and 5, the Work Plan and Schedule, respectively.

Table 1: Downtown Combined Sewer Upsizing Project Budget

Project Budget Project Title: Downtown Combined Sewer Upsizing Project						
		(a)	(b)	(c)	(d)	(e)
	Budget Category	**Non-State Share* (Funding Match)**	**Requested Grant Funding**	**Other State Funds Being Used**	**Total**	**% Funding Match**
(a)	Direct Project Administration Costs	$73,586	$74,278	$0	$147,864	50%
(b)	Land Purchase/Easement	$0	$0	$0	$0	0%
(c)	Planning/Design/Engineering/ Environmental Documentation	$551,711	$561,915	$0	$1,113,626	50%
(d)	Construction/Implementation	$5,774,029	$4,478,000	$0	$10,252,029	56%
(e)	Environmental Compliance/ Mitigation/Enhancement	$7,721	$41,714	$0	$49,435	16%
(f)	Construction Administration	$492,161	$453,913	$0	$946,074	52%
(g)	Other Costs	$0	$1,500	$0	$1,500	0%
(h)	Construction/Implementation Contingency	$0	$598,831	$0	$598,831	0%
(i)	**Grand Total (Sum rows (a) through (h) for each column)**	**$6,899,208**	**$6,210,151**	**$0**	**$13,109,359**	**53%**
***Sources of funding: Drainage and Sewer User Rates, CSS Development Fees, STAG (EPA) Grant Funds**						

(a) Direct Project Administration Detail

Direct project administration costs for the Project were calculated based on expected level of effort by involved staff and costs. Table 2 details the hourly wages paid by discipline and the number of hours to be expended for project administration. Direct project administration costs include general project administration tasks (claim preparation, communications with the California Department of Water Resources [DWR], and City Council communications), Labor Compliance Program (LCP) implementation, and reporting (quarterly reports and final report). Direct project administration costs for Phases 2 and 3 of the Project will be funded under DWR's Proposition 1E Stormwater and Flood Management grant program.

Table 2: Administration Detail

Discipline	Hourly Wage ($/hr)	Number of Hours	Total
		Previously Completed J/K Alley (2010)	**$738**
		Previously Completed S Street - 7th to 14th (2010)	**$1,874**
		Previously Completed S Street - 14th to 17th (2010)	**$5,431**
		Previously Completed 5th Street - P St to U St (2010)	**$11,261**
Phase 1 - Admin	$130.00	40	**$5,200**
Phase 2 - Admin	$130.00	100	**$13,000**
Phase 3 - Admin	$130.00	60	**$7,800**
Reporting	$130.00	100	**$13,000**
Labor Compliance	N/A	N/A	**$89,560**
		Total	**$147,864**

(b) Land Purchase/Easement Detail

All the proposed improvements for the Downtown Combined Sewer Upsizing Project will take place within City of Sacramento (City) maintained Right-of-Way. Therefore, no land purchase or easement cost details are included for this project and no grant funding is requested for land purchases or easements.

(c) Planning/Design/Engineering/Environmental Documentation Detail

Direct project planning/design/engineering/environmental documentation costs were estimated using hourly wage paid by discipline and the number of hours to be expended for planning, design, engineering, environmental documentation work items. This budget item includes 30% Designs, 60% Designs, 90% (pre-final) Designs, and 100% (final) Designs.

All planning work for Phases 1 and 2 of the Project has been completed; these Project phases were shown to be feasible through the recent planning study entitled Downtown Large Sewers Rehabilitation and Improvement, Phases 1 through 3 (April 2001). Further, the project has been determined to be feasible based on the planning work completed to date and the City's extensive experience with similar projects. The planning work for Phase 3 has begun and is anticipated to be completed in May 2011.

The 60% Design for Phase 1 of this Project has been completed. The 90% Design began in March 2011. A 90% and 100% (Final) design documents will be completed. The design for Phases 2 and 3 has not been started. A 30%, 60%, 90% and 100% (Final) design documents will be completed for each phase. For Phase 2, the 30% Design is expected to be completed in September 2011, followed by 60% Design in November 2011, 90% Design in January 2012 and 100% (final) will be completed in February 2012. For Phase 3, the 30% Design is expected to be completed in July 2012 and the 100% (final) Design will be completed in January 2013. Design of the Project will be performed by City staff. A geotechnical consultant will be contracted to determine the subsurface soil conditions within the project alignments. The 100% plans and specs will be used to prepare the bid package for bid advertisement.

The Community Development Department, Environmental Planning Services Division (EPSD) has reviewed Phase 1 of the proposed Project and determined that the project is categorically exempt from the provisions of CEQA under Class 2, Section number 15302 (c). It is anticipated that the EPSD will likewise determine that Phases 2 and 3 of the proposed project are categorically exempt under Class 2, Section number 15302 (c). No additional environmental documentation is expected to be required.

Direct project planning/design/engineering/environmental documentation costs for Phases 2 and 3 of the Project will be funded under DWR's Proposition 1E Stormwater and Flood Management grant program.

Table 3: Planning/Design/Engineering/Environmental Documentation Detail

Stage	Discipline	Hourly Wage ($/hr)	Number of Hours	Total
			Previously Completed J/K Alley (2010)	**$47,888**
			Previously Completed S Street 7th to 14th (2010)	**$118,118**
			Previously Completed S Street 14th - 17th (2010)	**$108,623**
			Previously Completed 5th Street P St to U St (2010)	**$208,219**
Phase 1 - Planning	Environmental	$130.00	12	$1,530
Phase 1 - Design	Surveying	$130.00	59	$7,651
Phase 1 - Design	Drafting	$130.00	59	$7,651
Phase 1 - Design	Design	$130.00	177	$22,954
Phase 1 - Design	Other - Misc (Mailings, PR, etc)	$130.00	6	$765
Phase 1 - Design	Plant/Field Support	$130.00	18	$2,295
			Phase 1 Subtotal	**$42,848**
Phase 2 - Planning	Environmental	$130.00	94	$12,264
Phase 2 - Planning	Planning	$130.00	189	$24,529
Phase 2 - Design	Pre-design	$130.00	283	$36,793
Phase 2 - Design	Surveying	$130.00	189	$24,529
Phase 2 - Design	Geotech Consultant	$130.00	377	$49,057
Phase 2 - Design	Potholes	$130.00	94	$12,264
Phase 2 - Design	Drafting	$130.00	94	$12,264
Phase 2 - Design	Design	$130.00	377	$49,057

Stage	Discipline	Hourly Wage ($/hr)	Number of Hours	Total
Phase 2 - Design	Design Consultants (all disciplines)	$130.00	1226	$159,435
			Phase 2 Subtotal	**$380,192**
Phase 3 - Planning	Environmental	$130.00	57	$7,420
Phase 3 - Planning	Planning	$130.00	114	$14,839
Phase 3 - Design	Pre-design	$130.00	114	$14,839
Phase 3 - Design	Surveying	$130.00	228	$29,678
Phase 3 - Design	Geotech Consultant	$130.00	57	$7,420
Phase 3 - Design	Potholes	$130.00	57	$7,420
Phase 3 - Design	Drafting	$130.00	228	$29,678
Phase 3 - Design	Design	$130.00	742	$96,445
			Phase 3 Subtotal	**$207,739**
			Total	**$1,113,626**

(d) Construction/Implementation Detail

The total cost for Construction/Implementation for the Project is $10,252,029. The basis of the estimate is shown in Table 4; costs shown in this table are furnished and installed prices and include material, labor and equipment costs. Construction/Implementation costs for Phases 1 through 3 of the Project will be funded under DWR's Proposition 1E Stormwater and Flood Management grant program.

Table 4: Cost for Construction

Item (units)	Unit Costs ($)	Number of Units	Total ($)
		Previously Completed J/K Alley (2010)	**$420,301**
		Previously Completed S Street 7th to 14th (2010)	**$2,221,410**
		Previously Completed S Street 14th to 17th (2010)	**$1,137,950**
		Previously Completed 5th Street P St to U St (2010)	**$1,994,368**
Phase 1 Estimate			
Preconstruction Photographs (ls)	$7,000.00	1	$7,000
72-inch Sewer Pipe to Place (lf)	$740.00	720	$532,800
60-inch Sewer Pipe to Place (lf)	$640.00	105	$67,200
12-inch Drain Pipe to Place (lf)	$135.00	120	$16,200
Saddle Manhole to Construct (ea)	$10,400.00	5	$52,000
Water Main to Raise (ea)	$8,300.00	1	$8,300
Pipe Ends to Plug (ea)	$400.00	8	$3,200
Substandard Water Service to Replace (ea)	$1,000.00	3	$3,000
Asphalt Overlay to Place (sf)	$195.00	100	$19,500

Item (units)	Unit Costs ($)	Number of Units	Total ($)
Traffic Loops to Replace (ea)	$1,250.00	2	$2,500
Unsuitable Material to Replace (ton)	$50.00	300	$15,000
Unmarked Utility Crossings (ea)	$250.00	8	$2,000
		Phase 1 Subtotal	**$728,700**
Phase 2 Estimate			
Preconstruction Photographs (ls)	$2,500.00	1	$2,500
Ex. Pipe to Remove, 36" Pipe to Place (lf)	$500.00	835	$417,500
Ex. Pipe to Remove, 60" Pipe to Place (lf)	$700.00	2,152	$1,506,400
Type 4 Manhole (ea)	$9,100.00	4	$36,400
Saddle Manhole ea)	$14,500.00	8	$116,000
10-inch Drain Lead, to Install (lf)	$190.00	500	$95,000
Water Service to Relocate/Replace (ea)	$1,500.00	15	$22,500
Existing Sewer Service, to Replace (ea)	$1,400.00	30	$42,000
Sewer Service, to Plug (ea)	$500.00	10	$5,000
Unsuitable Material to Remove and Replace (ton)	$35.00	1,450	$50,750
Unmarked Utility Crossings (ea)	$300.00	40	$12,000
DI to Remove, Mod. Type B DI to Replace (ea)	$3,000.00	10	$30,000
		Phase 2 Subtotal	**$2,336,050**
Phase 3 Estimate			
Preconstruction Photographs	$2,500.00	1	$2,500
Ex. Pipe to Remove, 48" Pipe to Place	$600.00	1,860	$1,116,000
Saddle Manhole	$14,500.00	7	$101,500
10-inch Drain Lead, to Install	$190.00	500	$95,000
Water Service to Relocate/Replace	$1,500.00	9	$13,500
Existing Sewer Service, to Replace	$1,400.00	5	$7,000
Sewer Service, to Plug	$500.00	5	$2,500
Unsuitable Material to Remove and Replace	$35.00	950	$33,250
Unmarked Utility Crossings	$300.00	40	$12,000
DI to Remove, Mod. Type B DI to Replace	$3,000.00	10	$30,000
		Phase 3 Subtotal	**$1,413,250**
		Construction Cost Total	**$10,252,029**

(e) Environmental Compliance/ Mitigation/Enhancement Detail

Environmental Compliance, Mitigation and Enhancement costs for the Project have been calculated to be $49,435 based on the past cost of similar projects. This includes all materials and equipment costs for site restoration and any additional environmental compliance costs.

In addition, monitoring required as part of implementation of the Project Performance Plan will be implemented under this task. Environmental Compliance, Mitigation and Enhancement costs for Phases 2 and 3 of the Project will be funded under DWR's Proposition 1E Stormwater and Flood Management grant program.

Table 5: Cost of Environmental Compliance/Mitigation/Enhancement

Item	Total ($)
Previously Completed J/K Alley (2010)	$299.83
Previously Completed S Street 7th to 14th (2010)	$1,316.72
Previously Completed S Street 14th to 17th (2010)	$5,431.00
Previously Completed 5th Street P St to U St (2010)	$673.24
Phase 1 Environmental Compliance	$1,530.27
Phase 2 Environmental Compliance	$12,264.26
Phase 3 Environmental Compliance	$7,419.56
Total	**$28,635.05**

Table 6: Labor Costs for Implementing Project Performance Monitoring Plan

Discipline	Total ($)
Performance Monitoring	$20,800
Total	**$20,800**

(f) Construction Administration Detail

Construction Administration for the Project is expected to cost approximately $946,074, based on the estimated time and materials costs for the project below. This estimate is based on the City experience with similar projects. Construction administration for the Project will be performed by City staff. Construction administration costs for Phases 1 through 3 of the Project will be funded under DWR's Proposition 1E Stormwater and Flood Management grant program.

Table 7: Cost of Construction Administration

Discipline	Hours	Unit Cost ($)	Total Costs ($)
Previously Completed J/K Alley (2010)			**$97,858**
Previously Completed S Street 7th to 14th (2010)			**$107,805**
Previously Completed S Street 14th to 17th (2010)			**$86,898**
Previously Completed 5th Street P St to U St (2010)			**$199,600**
Phase 1			

Discipline	Hours	Unit Cost ($)	Total Costs ($)
Engineering Construction Support	118	$130.00	$15,303
Construction Staking	29	$130.00	$3,826
Construction Inspection	147	$130.00	$19,128
Const. Consult. (soils/mat test, CM)	12	$130.00	$1,530
Other Const. Costs (blueprinting, etc)	6	$130.00	$765
		Phase 1 Subtotal	**$40,552**
Phase 2			
Engineering Construction Support	283	$130.00	$36,793
Construction Staking	189	$130.00	$24,529
Construction Inspection	943	$130.00	$122,643
Construction Administration	377	$130.00	$49,057
Const Consult (soils/mat test, CM)	189	$130.00	$24,529
		Phase 2 Subtotal	**$257,550**
Phase 3			
Engineering Construction Support	171	$130.00	$22,259
Construction Staking	114	$130.00	$14,839
Construction Inspection	571	$130.00	$74,196
Construction Administration	228	$130.00	$29,678
Const Consult (soils/mat test, CM)	114	$130.00	$14,839
		Phase 3 Subtotal	**$155,811**
		Total	**$946,074**

(g) Other Costs Detail

Other costs associated with the Project include costs associated with preparation of a Project Performance Monitoring Plan. No permits are expected to be required; therefore no permit fees are included in this budget category.

Table 8: Other Costs

Item	Cost ($)
Preparation of Performance Monitoring Plan	$1,500
Grand Total	**$1,500**

(h) Construction/Implementation Contingency Detail

The construction/implementation contingency percentage applied to this project is 5% of the construction costs for Phase 1, and 10% of the construction costs for Phases 2 and 3. The contingency is based on prior project experience and engineering practice and the planning level of each phase. These costs include funds to handle unknown and unspecified conditions encountered during construction or implementation of the Project.

Table 9: Contingencies

Project Phase	Cost ($)
Phase 1 Contingency	$36,435
Phase 2 Contingency	$350,408
Phase 3 Contingency	$211,988
Grand Total	**$598,831**

(i) Grand Total (Sum rows (a) through (h) for each column) Detail

The total estimated cost for Downtown Sewer Upsizing Project is $13,109,359; $6,899,208 is provided through funding match and $6,210,151 is being requested from the Proposition 84 IRWM grant program.

Calculation of Funding Match %

The funding match for Downtown Combined Sewer Upsizing Project is $6,899,208 or 53% of the total project costs and is provided by Drainage and Sewer User Rates, CSS Development Fees, STAG) Grant Funds from the Environmental Protection Agency and in-kind services.